## Confidence Intervals: Estimating a Population MEAN

**Requirements:**

1.)

2.)

**Notation:**

$\mu$ =

$\bar{x}$ =

$\sigma(unkown)$ =

$s$ =

$n$ =

**Student *t* Distribution**

**Why?:**

**So what is it?**

**Formula:** **With critical value:**

**Finding a critical value for the *t* distribution: A New Table!**

**Example:** A sample of size n = 23 is a simple random sample selected from a normally distributed population. Find the critical value $t_{\alpha/2}$ corresponding to a 95% confidence level.

**1.)** Use the sample size to find the **Degrees of Freedom : n – 1** **Picture**

**2.)** Figure out what $\alpha$ is using your level of confidence.

**3.)** Use Table A – 3. First locate the degrees of freedom in the column on the left. Then find the column listing values for your alpha value (Two-tailed.)

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